

## SECTION 01525

### SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

#### 1. GENERAL

For contractor safety on projects associated with this program, compliance with EM 385-1-1 safety requirements will be the long-term goal reached by growing a safety culture. This compliance will, by necessity, be achieved through a phased-in process. In the Commander's letter at the preface of the EM 385-1-1, he acknowledges that in OCONUS locations, strict compliance with the manual may not be possible – and through the hazard analysis process, safety measures can be developed to attain the same degree of safety.

#### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

##### AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE / SAFE)

ASSE / SAFE A10.32	Fall Protection (2004)
ASSE / SAFE A10.34	Protection of the Public on or Adjacent to Construction Sites (2001; R 2005)
ASSE / SAFE Z359.1	Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components (2007)

##### ASME INTERNATIONAL (ASME)

ASME B30.22	Articulating Boom Cranes (2005)
ASME B30.3	Tower Cranes (2009)
ASME B30.5	Mobile and Locomotive Cranes (2007)
ASME B30.8	Floating Cranes and Floating Derricks (2010)

##### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	Standard for Portable Fire Extinguishers (2010)
NFPA 241	Standard for Safeguarding Construction, Alteration, and Demolition Operations (2009)
NFPA 51B	Standard for Fire Prevention During Welding, Cutting, and Other Hot Work (2009; TIA 09-1)
NFPA 70	National Electrical Code (2011)

NFPA 70E

Standard for Electrical Safety in the  
Workplace (2009; Errata 09-1)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

Safety and Health Requirements  
Manual (2008; Change 1-2010; Change  
3-2010; Errata 1-2010)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910

Occupational Safety and Health  
Standards (OSHA)

29 CFR 1910.146

Permit-required Confined Spaces

29 CFR 1915

Confined and Enclosed Spaces and  
Other Dangerous Atmospheres in  
Shipyard Employment

29 CFR 1926

Safety and Health Regulations for  
Construction

29 CFR 1926.500

Fall-Protection

**1.2 SUBMITTALS**

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01335 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, RO

Fall Protection and Prevention Plan;

Activity Hazard Analysis (AHA); G, RO

Confined Space Entry Plan; G, District Safety Office

Crane Critical Lift Plan; G, RO

Proof of qualification for Crane Operators; G, RODemolition Plan; G, RO

Excavation Plan; G, RO

Severe Storm Plan; G, RO

SD-06 Test Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports"

Accident Reports

Crane Reports

SD-07 Certificates

Confined Space Entry Permit

Hot Work Permit

Submit one copy of each permit/certificate attached to each Daily Quality Control Report.

### **1.3 DEFINITIONS**

**a. Competent Person for Fall Protection**

A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.

**b. High Visibility Accident**

Any mishap which may generate publicity and/or high visibility.

**c. Medical Treatment**

Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered personnel.

**d. Operating Envelope**

The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).

**e. Qualified Person for Fall Protection**

A person with a recognized degree or professional certificate, extensive knowledge, training and experience in the field of fall protection who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.

**f. Recordable Injuries or Illnesses**

Any work-related injury or illness that results in:

1. Death, regardless of the time between the injury and death, or the length of the illness;
2. Days away from work (any time lost after day of injury/illness onset);
3. Restricted work;
4. Transfer to another job;
5. Medical treatment beyond first aid;
6. Loss of consciousness; or
7. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

**g. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.**

### **1.4 QUALITY ASSURANCE**

#### **1.4.1 PERSONNEL QUALIFICATIONS**

##### **1.4.1.1 SITE SAFETY AND HEALTH OFFICER (SSHO)**

- a. The contractor shall provide a Safety oversight team that includes a minimum of one (1) Competent Person at each project site to function as the Safety and Health Officer (SSHO). The SSHO shall be at the work site at all times, to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor.
- b. The SSHO must have completed the 30 Hour OSHA Construction Safety Course within the last 5 years (or equivalent training) and have at the minimum 1 year full time safety experience working on similar type projects. A Competent Personal shall be provided for all hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and shall be on-site at all times when the work that presents the hazards associated with their

professional expertise is being performed. The credentials of the Competent Persons(s) shall be approved by the Contracting Officer in consultation with the Safety Office.

- c. The Contractor Quality Control (QC) or the superintendant cannot be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties.

#### **1.4.1.2 COMPETENT PERSON FOR CONFINED SPACE ENTRY**

Provide a competent person meeting the requirements of EM 385-1-1 who is assigned in writing by the Government Designated Authority (GDA) to assess confined spaces and who possesses demonstrated knowledge, skill and ability to:

- a. Identify the structure, location, and designation of confined and permit-required confined spaces where work is done;
- b. Calibrate and use testing equipment including but not limited to, oxygen indicators, combustible gas indicators, carbon monoxide indicators, and carbon dioxide indicators, and to interpret accurately the test results of that equipment;
- c. Assess hazardous conditions including atmospheric hazards in confined space and adjacent spaces and specify the necessary protection and precautions to be taken;
- d. Determine ventilation requirements for confined space entries and operations;
- e. Assess hazards associated with hot work in confined and adjacent space and determine fire watch requirements; and
- f. Maintain records required.

#### **1.4.1.3 CRANE OPERATORS**

Crane Operators shall:

- 1. Crane Operators shall meet the requirements in USACE EM 385-1-1, Section 16 and Appendix I;
- 2. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators as qualified by a source that qualifies crane operators (i.e., union, a government agency, or and organization that tests and qualifies crane operators); and
- 3. Provide proof of current qualification.

#### **1.4.2 REGULATORY REQUIREMENTS**

- a. In addition to the detailed requirements included in the provisions of this contract, comply with the most recent addition of USACE EM 385-1-1, and the following host nation laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.
- b. The Contractor shall submit for acceptance a DBA Insurance Plan describing how the requirements will be met including:
  - 1. Properly and promptly submit an injury claim within seven days of the incident;
  - 2. Provide Resident/Area Engineer with copies of submitted claim;
  - 3. Gather contact information of workers and their family;
  - 4. Follow-up on the claim's status;
  - 5. Provide weekly claims report status to the Resident/Area Engineer;
  - 6. Provide prompt payment to an injured worker, or the family of a deceased worker; and
  - 7. Provide Resident/Area Engineer confirmation that payment has been provided from DBA Insurance provider.

### **1.4.3 MEETINGS**

#### **1.4.3.1 PRECONSTRUCTION CONFERENCE**

The Preconstruction Conference shall occur as described in Section 01060 SPECIAL REQUIREMENTS and encompass the following criteria:

1. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
2. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.
3. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.
4. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

#### **1.4.3.2 SAFETY MEETINGS**

Shall be conducted and documented as required by EM 385-1-1. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily quality control report.

#### **1.4.3.3 PRE-OUTAGE COORDINATION MEETINGS**

Contractors are required to apply for utility outages at least 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, attend a pre-outage coordination meeting with the Contracting Officer to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

## **2. PRODUCTS**

### **2.1 ACCIDENT PREVENTION PLAN (APP)**

- a. The Contractor shall use a qualified person to prepare the written site-specific APP in both English and in the host nation language. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein.
- b. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan." An AED Minimum Basic Outline for Contractor APP Template is provided at the end of this section. The full reference manual may be obtained from the Contracting Officer at the jobsite or from the Afghanistan Engineer District at Kabul, Afghanistan.
- c. Specific requirements for some of the APP elements are described below. The APP shall be job-specific and shall address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific.

- d. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer.
- e. In addition to following the requirements defined by EM 385-1-1, the Contractor shall submit for approval as part of the APP a DBA Insurance Plan describing how the requirements in Section 01060 SPECIAL REQUIREMENTS will be met including:
  - 1. Properly and promptly submit an injury claim within seven days of the incident;
  - 2. Provide Resident/Area Engineer with copies of submitted claim;
  - 3. Gather contact information of workers and their family;
  - 4. Follow-up on the claim's status;
  - 5. Provide weekly claims report status to the Resident/Area Engineer;
  - 6. Provide prompt payment to an injured worker, or the family of a deceased worker; and
  - 7. Provide Resident / Area Engineer confirmation that payment has been provided from DBA Insurance provider.
- f. Submit the APP to the Contracting Officers Representative (COR) or USACE Area/Resident Office Engineer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
- g. Once accepted by the Contracting Officers Representative or Area/Resident Office Engineer, the APP and attachments will be reviewed for completeness and sent to the USACE Safety Office for acceptance and enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the COR, until the matter has been rectified.
- h. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the COR, project superintendent, SSHO and quality control manager. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the COR within 24 hours of discovery. In the interim, all necessary action shall be taken to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment.
- i. Copies of the accepted plan will be maintained at the Contracting Officer's office and at the job site.
- j. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.
- k. The APP will be readily available to all workers on the worksite in all native languages of the workers.

## **2.2 ACTIVITY HAZARD ANALYSIS (AHA)**

- a. The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, and shall be written in both English and the host nation language. Submit the AHA for review at least 15 calendar days prior to the start of each phase and format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.
- b. The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.
- c. The activity hazard analyses shall be developed using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will

be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

## **2.3 USACE ENGINEERING MANUAL 385-1-1**

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required:

### **2.3.1 QUALIFICATIONS**

- a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated site safety and health officer and other competent and qualified personnel to be used such as CSPs, CIHs, STSs, CHSTs. Specify the duties of each position.
- b. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.

### **2.3.2 CONFINED SPACE ENTRY PLAN**

Develop a confined and/or enclosed space entry plan in accordance with USACE EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

### **2.3.3 CRANE CRITICAL LIFT PLAN**

Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. Submit 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.H. Table 16.

### **2.3.4 FALL PROTECTION AND PREVENTION PLAN**

The program documentation shall be site specific and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m. A qualified person for fall protection shall prepare and sign the program documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Revise the Fall Protection and Prevention Program documentation every six months for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Program documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Program documentation in the Accident Prevention Plan (APP).

### **2.3.5 EXCAVATION PLAN**

A plan shall be develop taking in consideration the type of soil and the depth, it shall fallow the requirements of section 25.A and be site specific.

## **2.4 REPORTS**

### **2.4.1 ACCIDENT REPORTS**

All accident occurring incidentally to the project shall be investigated, reported, analyzed and documented. For recordable injuries and illnesses, as defined in 1.3.h and property damage accidents

resulting in at least \$2,000 in damages, to establish the root cause(s) of the accident, complete the USACE Accident Report Form 3394 and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms on accident for less than \$2,000.00 or not recordable injuries.

#### **2.4.2 ACCIDENT NOTIFICATION**

Notify the Contracting Officer as soon as practical, but not later than four (4) hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

#### **2.4.3 MONTHLY EXPOSURE REPORTS**

Monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

#### **2.4.4 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST**

Contractor Safety Self-Evaluation Checklist shall be submitted to Contracting Officer, attached to monthly billing request. This checklist shall be a Quality Control measure established by the Contractor to ensure Safety evaluations are performed daily by site safety and health personnel and evaluated for needed improvements at a minimum rate of once a month.

#### **2.4.5 CRANE REPORTS**

- a. Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix I and as specified herein with Daily Reports of Inspections.
- b. Provide a Certificate of Compliance for each crane entering an activity under this contract (see Contracting Officer for a blank certificate). State within the certificate that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance comply with 29 CFR 1926 and USACE EM 385-1-1 Section 16 and Appendix I. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. For cranes at DOD activities in foreign countries, certify that the crane and rigging gear conform to the appropriate host country safety standards. Also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices). Post certifications on the crane.

#### **2.5 HOT WORK**

- a. Submit and obtain a written permit prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, from the Base Fire Department or as directed by the Contracting Officer. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. **CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED.** The Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.
- b. When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and have in their possession the emergency contact phone number.



**ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE FIRE DIVISION/DEPARTMENT IMMEDIATELY.**

## **2.6 SAFETY INFORMATION**

### **2.6.1 DISPLAY**

- a. Within one (1) calendar day after commencement of work, Contractor shall erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, shall be deemed as meeting the requirement for a bulletin board. All documentation shall be in English and in the native language of all workers on site. Include and maintain information on safety bulletin board as required by EM 385-1-1, section 01.A.06.
- b. Additional items required to be posted include:
  1. Confined space entry permit.
  2. Hot work permit.
  3. Deficiency tracking log

### **2.6.2 REFERENCE MATERIAL**

Contractor shall maintain safety-related references applicable to the project, including those listed in the article "References," on site at all times.

### **2.6.3 EQUIPMENT MANUALS**

Contractor shall maintain applicable equipment manufacturer's manuals on site at all times.

## **3. EXECUTION**

### **3.1 GENERAL**

#### **3.1.1 FACILITY OCCUPANCY CLOSURE**

Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer.

#### **3.1.2 SEVERE STORM PLAN**

In the event of a severe storm warning, the Contractor shall:

1. Secure outside equipment and materials and place materials that could be damaged in protected areas.
2. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
3. Ensure that temporary erosion controls are adequate.

#### **3.1.3 EMERGENCY MEDICAL TREATMENT**

Contractors will arrange for their own emergency medical treatment. The Government has no responsibility to provide emergency medical treatment. Military medical clinics may provide emergency treatment for serious injuries; the contractor is responsible for coordination with the local military medical clinic prior to mobilization.

#### **3.1.4 DRUG PREVENTION PROGRAM**

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employee uses illegal drugs or consumes alcohol during work hours. Ensure

there are no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine, or saliva specimens and test the injured and involved employees for the influence of drugs and alcohol. A copy of the test shall be made available to the Contracting Officer upon request.

### **3.1.5 PERSONNEL DUTIES**

- a. The Site Safety and Health Officer (SSHO) and / or Superintendent shall perform the following duties as described herein:
  1. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily quality control report;
  2. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors;
  3. Maintain applicable safety reference material on the job site;
  4. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings;
  5. Implement and enforce accepted APPS and AHAs;
  6. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board;
  7. Ensure sub-contractor compliance with safety and health requirements. Failure to perform the above duties will result in dismissal of the superintendent, QC Manager, and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement; and
  8. Maintain a list of hazardous chemicals on site and their material safety data sheets.
- b. Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

### **3.1.6 TRAINING**

#### **3.1.6.1 NEW EMPLOYEE INDOCTRINATION**

New employees (prime and sub-contractor) will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

#### **3.1.6.2 PERIODIC TRAINING**

Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the accepted APP. Ensure all required training has been accomplished for all onsite employees.

#### **3.1.6.3 TRAINING ON ACTIVITY HAZARD ANALYSIS (AHA)**

Prior to beginning a new phase, training will be provided to all personnel on the worksite according to the Activity Hazard Analysis (AHA)

### **3.2 DAILY TOOLBOX SAFETY MEETING CONSTRUCTION AND / OR OTHER WORK**

- a. Before initiation of work at the job site, an Accident Prevention Plan (APP), written by the Contractor for the specific work and hazards of the contract and implementing in detail the pertinent requirements of EM 385-1-1, will be reviewed and found acceptable by designated Government personnel. Specific requirements for development of the accident prevention plan are found in sections 01.A and Appendix A of EM 385-1-1.

- b. Before beginning each activity involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform the work, activity hazard analysis (AHA) shall be prepared by the Contractor performing the work activity. See paragraph 01.A.13 of EM 385-1-1.
- c. The Contractor shall require subcontractors to submit their plan of operations showing methods they propose to use in accomplishing major phases of work.
- d. The Contractor shall be prepared to discuss the plans in conferences convened by the Contracting Officer prior to starting work on each major phase of operation. Plans shall include all pertinent information such as layout of haul roads, access roads, storage areas, electrical distribution lines, methods of providing minimum exposure to overhead loads, and methods of access to work areas. The plan for accomplishing the initial work phase shall be submitted within 15 calendar days after award of the contract. Plans for subsequent major phases of work shall be submitted not later than 15 calendar days prior to initiation of work on each major phase.
- e. All areas where construction, demolition, alteration, building, or similarly related activities take place, all workers shall have the following minimum personal protective clothing and equipment:
  - 1. Short sleeve shirt;
  - 2. Long trousers;
  - 3. Steel-toed safety boots; and
  - 4. Hard hat.

### **3.2.1 HAZARDOUS MATERIALS**

Comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, Federal and/or State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

#### **3.2.1.1 HAZARDOUS MATERIAL EXCLUSIONS**

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. The Radiation Safety Officer (RSO) must be notified prior to excepted items of radioactive material and devices being brought on base.

#### **3.2.1.2 UNFORESEEN HAZARDOUS MATERIAL**

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

### **3.3 CONTROL OF HAZARDOUS ENERGY**

#### **3.3.1 GENERAL**

- a. Contractor shall ensure that each employee is familiar with and complies with these procedures and USACE EM 385-1-1, Section 12, Control of Hazardous Energy.
- b. The Contractor shall, at the Contracting Officer's request, apply lockout/tag out tags and take other actions that, because of experience and knowledge, are known to be necessary to make the particular equipment safe to work on for government owned and operated systems. No person,

regardless of position or authority, shall operate any switch, valve, or equipment that has an official lockout/tag out tag attached to it, nor shall such tag be removed except as allowed by this section.

- c. No person shall work on any energized equipment including, but not limited to activities such as erecting, installing, constructing, repairing, adjusting, inspecting, un-jamming, setting up, trouble shooting, testing, cleaning, dismantling, servicing and maintaining machines equipment of processes until an evaluation has been conducted identifying the energy source and the procedures which will be taken to ensure the safety of personnel. Only qualified personnel shall perform work on electrical circuits.
- d. A supervisor who is required to enter an area protected by a lockout/tag out tag will be considered a member of the protected group provided he notifies the holder of the tag stub each time he enters and departs from the protected area. Identification markings on building light and power distribution circuits shall not be relied on for established safe work conditions.
- e. Before clearance will be given on any equipment other than electrical (generally referred to as mechanical apparatus), the apparatus, valves, or systems shall be secured in a passive condition with the appropriate vents, pins, and locks. Pressurized or vacuum systems shall be vented to relieve differential pressure completely. Vent valves shall be tagged open during the course of the work. Where dangerous gas or fluid systems are involved, or in areas where the environment may be oxygen deficient, system or areas shall be purged, ventilated, or otherwise made safe prior to entry.

### **3.3.2 TAG PLACEMENT**

- a. Lockout/tag out tags shall be completed in accordance with the regulation printed on the back thereof and attached to any device which, if operated, could cause an unsafe condition to exist. If more than one group is to work on any circuit or equipment, the employee in charge of each group shall have a separate set of lockout/tag out tags completed and properly attached.
- b. When it is required that certain equipment be tagged, the Government will review the characteristics of the various systems involved that affect the safety of the operations and the work to be done; take the necessary actions, including voltage and pressure checks, grounding, and venting, to make the system and equipment safe to work on; and apply such lockout/tag out tags to those switches, valves, vents, or other mechanical devices needed to preserve the safety provided. This operation is referred to as "Providing Safety Clearance."

### **3.3.3 TAG REMOVAL**

When any individual or group has completed its part of the work and is clear of the circuits or equipment, the supervisor, project leader, or individual for whom the equipment was tagged shall turn in his signed lockout/tag out tag stub to the Contracting Officer. That group's or individual's lockout/tag out tags on equipment may then be removed on authorization by the Contracting Officer.

## **3.4 EXCAVATIONS**

Perform soil classification by a competent person in accordance with 29 CFR 1926.

The competent person for excavations performed as a result of contract work shall be on-site when excavation work is being performed, and shall inspect, and document the excavations daily prior to entry by workers. The competent person must evaluate all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly. All excavations shall conform to the requirements of Section 25 of EM 385-1-1.

### **3.4.1 UTILITY LOCATIONS**

- a. Prior to any excavation activities, the appropriate digging permit must be obtained.
- b. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract.

- c. All underground utilities discovered will be flagged a distance of one-half (1/2) meter on each side of the location, and any markings made during the utility investigation must be maintained throughout the contract.
- d. Damage occurring to existing utilities, when the above procedures are not followed, will be repaired at the Contractor's expense.

#### **3.4.2 UTILITY LOCATION VERIFICATION**

The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within 610 mm of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility expose the utility by hand digging every 30.5 m if parallel within 1.5 m of the excavation.

#### **3.4.3 SHORING SYSTEMS**

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacturer tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on-site for review. Job-made shoring or shielding shall have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

#### **3.4.4 TRENCHING MACHINERY**

Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator. Operator and spotters/laborers shall be provided training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating. Documentation of the training shall be kept on file at the project site.

#### **3.5 UTILITIES WITHIN CONCRETE SLABS**

Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with station utility departments in addition to a private locating service. Outages to isolate utility systems shall be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

##### **3.5.1 WORK IN CONFINED SPACES**

- a. Contractors entering and working in confined spaces performing general industry work are required to follow the requirements of OSHA 29 CFR Part 1926.
- b. USACE personnel entering and working in confined spaces performing non-maritime facility work are required to follow the requirements of OPNAVINST 5100.23G Chapter 27.
- c. Comply with the requirements in Section 34 of USACE EM 385-1-1, OSHA 29 CFR 1910.146 and OSHA 29 CFR 1926.21(b)(6). Any potential for a hazard in the confined space requires a permit system to be used.

##### **3.5.2 SIGNAGE**

- a. Provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces.
- b. Signs shall read as follows:

**"DANGER -- PERMIT-REQUIRED CONFINED SPACE -- DO NOT ENTER"**

- c. Provide in bold letters a minimum of 25 mm in height and constructed to be clearly legible with all paint removed.

- d. The signal word "DANGER" shall be red and readable from 1520 mm.

### **3.5.3 PROCEDURES**

- a. The Contractor shall comply with the requirements in Section 34 of USACE EM 385-1-1. Any potential for a hazard in the confined space requires a permit system to be used.
- b. Entry procedures shall prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 34 of USACE EM 385-1-1 for entry procedures.)
- c. All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
- d. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
- e. Ensure the use of rescue and retrieval devices in confined spaces greater than 1.5 m in depth. Conform to Section 34 of USACE EM 385-1-1.
- f. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.
- g. Include training information for employees who will be involved as entrants and attendants for the work. Conform to Section 34 of USACE EM 385-1-1.
- h. Daily Entry Permit shall be posted in a conspicuous place, close to the confined space entrance.

## **3.6 DEMOLITION**

### **3.6.1 DEMOLITION PLAN**

The Contractor shall submit a written demolition plan for all demolition work to be carried on the site. In addition, the demolition plan shall be signed by a Professional Registered Engineer and meet the requirements of the Corps of Engineers Safety and Health Manual, EM 385-1-1, section 23. The demolition plan shall be submitted to the COR at least 1 week before the beginning of the work, including structural calculations for the demolition, if necessary. The demolition work shall not begin before the Contractor has received a written approval from the COR.

### **3.6.2 PROTECTION OF PERSONNEL**

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workers remove debris or perform other work in the immediate area.

### **3.6.3 PROTECTION OF STRUCTURES**

Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the COR. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

Interior concrete or masonry walls shall be demolished from the top down unless a Registered Engineer can demonstrate that an alternate method poses no additional safety hazards

### **3.7 FALL HAZARD PROTECTION AND PREVENTION PROGRAM**

#### **3.7.1 GENERAL**

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include: company policy; identify responsibilities; education and training requirements; fall hazard identification; prevention and control measures; inspection, storage; care and maintenance of fall protection equipment and rescue and evacuation procedures.

#### **3.7.2 TRAINING**

The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards. A competent person for fall protection shall provide the training. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.B.

#### **3.7.3 FALL PROTECTION EQUIPMENT AND SYSTEMS**

- a. The Contractor shall enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.
- b. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, Paragraphs 21.N through 21.N.04. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase.
- c. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M, USACE EM 385-1-1 and ASSE/SAFE A10.32.

##### **3.7.3.1 PERSONAL FALL ARREST EQUIPMENT**

Personal fall arrest equipment, systems, subsystems, and components shall meet ASSE/SAFE Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabineers shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

#### **3.7.4 FALL PROTECTION FOR ROOFING WORK**

Fall protection controls shall be implemented based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

- a. Low Sloped Roofs:
  1. For work within 1.8 m of an edge, on low-slope roofs, personnel shall be protected from falling by use of personal fall arrest systems, guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized.
  2. For work greater than 1.8 m from an edge, warning lines shall be erected and installed in accordance with 29 CFR 1926.500 and USACE EM 385-1-1.
- b. Steep Sloped Roofs:

Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

### **3.7.5 ANCHORAGE**

- a. Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person for fall protection in accordance with ANSI Z359.1. Existing horizontal lifeline anchorages shall be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.
- b. Leave in place fall protection anchorage, conforming to ASSE/SAFE Z359.1, installed under the supervision of a qualified person in fall protection, for continued customer use and so identified by signage stating the capacity of the anchorage (strength and number of persons who may be tied-off to it at any one time).

### **3.7.6 HORIZONTAL LIFELINES**

Design, install, certify and use under the supervision of a qualified person horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

### **3.7.7 GUARDRAILS AND SAFETY NETS**

Design, install and use guardrails and safety nets in accordance with EM 385-1-1 and 29 CFR 1926 Subpart M.

### **3.7.8 RESCUE AND EVACUATION PROCEDURES**

A Rescue and Evacuation Plan shall be prepared by the Contractor and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. The Rescue and Evacuation Plan shall be included in the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

### **3.8 SCAFFOLDING**

- a. Employees shall be provided with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access to scaffold platforms greater than 6 m in height shall be accessed by use of a scaffold stair system.
- b. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold platforms greater than 6 m in height. The use of an adequate gate is required.
- c. Contractor shall ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted Fall Protection and Prevention Plan.
- d. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Work platforms shall be placed on mud sills.
- e. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above 1.8 m or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

### **3.9 FALLING OBJECT PROTECTION**

All areas must be barricaded to safeguard employees. When working overhead, barricade the area below to prevent entry by unauthorized employees. Construction warning tape and signs shall be posted



so they are clearly visible from all possible access points. When employees are working overhead all tools and equipment shall be secured so that they will not fall. When using guardrail as falling object protection, all openings shall be small enough to prevent passage of potential falling objects.

### **3.10 EQUIPMENT**

#### **3.10.1 MATERIAL HANDLING EQUIPMENT**

- a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
- c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

#### **3.10.2 WEIGHT HANDLING EQUIPMENT**

- a. Cranes and derricks shall be equipped as specified in EM-385-1-1 section 16.
- b. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- c. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes and floating derricks.
- d. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of USACE EM 385-1-1 Section 11 and ASME B30.5, or ASME B30.22, as applicable.
- e. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.
- f. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves to the satisfaction of the Contracting Officer that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.
- g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- h. All employees shall be kept clear of loads about to be lifted and of suspended loads.
- i. The Contractor shall use cribbing when performing lifts on outriggers.
- j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- k. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- l. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- m. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- n. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations the contractor shall set a maximum wind speed at

which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

### **3.10.3 MECHANIZED EQUIPMENT**

- a. Proof of qualifications for operator shall be kept on the project site for review.
- b. Manufacture specifications, or owner's manual for the equipment, shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

### **3.10.4 EXPLOSIVES**

Explosives of any kind are not allowed under any circumstances under this Contract within the ANSF Installation.

### **3.11 CRYSTALLINE SILICA**

Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with USACE EM 385-1-1, Appendix 06.H. The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

### **3.12 ELECTRICAL**

#### **3.12.1 CONDUCT OF ELECTRICAL WORK**

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers will be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA.

#### **3.12.2 PORTABLE EXTENSION CORDS**

Portable extension cords shall be sized in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately removed from service all damaged extension cords. Portable extension cords shall meet the requirements of NFPA 70E and OSHA electrical standards.

### **3.13 CLEANING**

- a. The Contractor shall be responsible for cleaning up. The Contractor shall require his personnel to keep the immediate work site clean of all dirt and debris resulting from work under this contract. Accumulated dirt and debris shall be hauled off and disposed of in accordance with local law and at least once a week by the Contractor. Additionally, all debris in work areas shall be cleaned up daily or more frequently if necessary. Construction debris may be temporarily located in an approved location; however garbage accumulation must be removed each day.

- b. Stairwells used by the Contractor during execution of work shall be cleaned daily. Cloths, mops, and brushes containing combustible materials shall be disposed of or stored outside of the buildings in tight covered metal containers. Paints and thinners shall not be poured into inlets of the interior or exterior sewage system. Paint, stains, and other residues on adjacent surfaces or fixtures caused by the Contractor shall be carefully removed and cleaned to original finish. Upon completion of the work, the Contractor shall remove all construction equipment, materials and debris resulting from the work. The entire work site and the area used by Contractor personnel shall be left clean.

**-- END OF SECTION --**